[1] Mario Hadi
Kusuma. ST.

The Effectiveness of the Implementation of Application Unit Price Catalog for the Efficiency of Price Analysis of Goods and Services at PT. PLN (Persero) UIW Bangka Belitung

Abstract: - The process of procurement of goods/services at PT PLN (Persero) that uses the Investment and Operating Budget needs to be regulated both from a formal and material side. This is considering that the Goods/Services Procurement process has an important role in the provision of electricity infrastructure carried out by PLN and is one of the achievements of PLN's performance.

The arrangements needed so that the procurement of goods/services has accountability without reducing the efficiency and effectiveness of their implementation can be facilitated by the Unit Price Catalog application. However, in terms of compiling a job proposal, detailed in terms of job description and price, an application is required that can store or provide a complete and comprehensive display of information as a tool for making a procurement proposal called the Unit Price Catalog Application. The role of the Unit Price Catalog Application is very important because it can be used as a basis for determining the price of goods/services to be held based on proposals made by users.

This paper will analyze the implementation of the effectiveness of the Unit Price Catalog application at PT PLN (Persero) UIW Bangka Belitung to realize a transparent, effective, and efficient tender process using variables of service availability, fulfillment, efficiency, and security as well as privilege in assessing service quality electronically. The method used in this study is a quantitative method with a purposive sampling survey approach with the criteria of respondents who are application users. Based on the results of questionnaire test analysis, observations, and other supporting data.

Keywords: Unit Price Catalog, efficiency, transparency, effectiveness.

I. INTRODUCTION

PT PLN (Persero) is the largest company in Indonesia operating in the electricity sector. We all know that currently, electricity has become a basic need for people's lives. In its development, the business of providing electrical energy, starting from the construction of generators, network construction, maintenance, and repair of company assets, really requires the provision of quality materials and services so that PLN can provide maximum service to all customers.

Based on Directors Regulation No. 0022.P/DIR/2020 the Goods/Services Procurement process is defined as goods/services procurement activities that include the initiation of goods/services procurement (identification of needs and budgeting), planning of goods/services procurement, implementation process of goods/services procurement, signing of agreements/ contract, implementation of the agreement/contract, and handover of the results of the implementation of the agreement/contract.

It cannot be denied that the Goods/Services Procurement Process is an important part of PLN's current business process. The Goods/Services Procurement Process is the starting point for all company activities. By having an efficient, effective, competitive, transparent, fair reasonable, and accountable procurement process, it is hoped that the goods/services received can be utilized as well as possible to support the company's business activities.

Procurement must be based on the concept of Value for Money – VFM ("purchasing value for money"), namely the optimum combination of 6 (six) rights: appropriate quality, quantity, time, place, socio-economic objectives, and price, which meets the needs of the user, and is not always the lowest initial price option, but the highest return (best return) from investment considering predetermined evaluation criteria.

In line to organize procurement more quickly, and flexibly without losing business momentum by controlling possible risks that occur and following best practices, the procurement regulations at PT PLN (Persero) have undergone several changes starting from 2010 to 2020. Currently, This implementation of procurement of goods/services is guided by Directors Regulation Number 022.P/DIR/2020 dated 02 March 2020 concerning Guidelines for Procurement of Goods/Services for PT PLN (Persero).

[1,] Information Technology Department at PT PLN (Persero) UPDL Palembang Indonesia
* Corresponding Author Email: mariohadi@gmail.com

In connection with several operational and investment targets contained in the Company's Work Plan and Budget (RKAP) each year, efforts to achieve the net profit target each year are carried out by combining programs to increase electricity sales in both volume and average selling price accompanied by reducing the basic cost of providing (BPP) electricity per kilowatt hour (kWh), while one of the efforts of the program above is to use the budget in an orderly and responsible manner and avoid using the budget for spending on goods/services that do not provide economic benefits for the company.

As the number of customers grows and the demand for electricity increases, this is directly proportional to the increase in unit operational burdens which are supported by the implementing units below, so the need for Operational and Investment Budgets, especially in PT PLN (Persero) Bangka Belitung Region, also increases every year.

One of the performances set by Central PLN for each unit is budget absorption (disbursement), especially investment. Each PLN unit is required to be able to use the budget that has been determined optimally and efficiently so that it can support the performance of the unit and organization, as for matters that can influence achievement, budget absorption performance due to the slow process of procurement of goods/services, including:

a. uncertainty over the length of time to prepare a Detailed Cost Budget (RAB) / Engineering Cost Estimation (HPE) / Owner Estimate Price (HPS)

b. Delays in the preparation process of feasibility study of financials and operations (KKO and KKF), and also Tender Documents (RKS)

c. The auction process failure

d. Lack of knowledge in making a procurement proposal.

e. Implementation time planning is less accurate, this is because the project feasibility study has not been carried out in depth.

f. Lack of references to related work that can be used as a basis for preparing proposals.

g. The length of the RAB preparation process for the relevant users and evaluation by the procurement planning function

h. Uncertainty Length of Process in Procurement Plan department and Procurement Executor department.

i. Delays in implementing work by contractors can be caused by suboptimal monitoring functions in the field and other factors.

j. Delays in the payment process can be caused by slow billing by the vendor, incomplete billing files, and so on.

The problem that will be discussed in this paper is the length of the procurement implementation process, this can be caused by the process of proposing and evaluating procurement proposals which is quite time-consuming, one indicator is that there are still many proposals that are not detailed both in terms of job descriptions and prices displayed, where the proposal only conveys the work carried out in outline and only includes the total value of the sub-work.

One way to speed up the process of procuring goods/services is by reducing the administrative time for procurement implementation, by creating a portal that can store all data on material prices or service prices for a job in detail. This portal can be used to facilitate the process of digitally documenting the prices of materials/services that have been carried out, even for unit prices obtained from product offers and the like so that it becomes a source of reference providers with detailed work descriptions and validated prices as well as a tool to help prepare Budget Plans Cost (RAB)

A. Implementation of Electronic Service Quality

According to Fandy Tjiptono (2002), quality is a dynamic condition related to products, services, people, processes, and environments that meet or exceed expectations [1]. Fandy Tjiptono further stated that quality contains many meanings, including conformity to requirements, suitability for use, continuous improvement, doing things correctly, or something that can make customers happy.

Garvin in Yamit (2004), developed quality dimensions into 8 (eight) dimensions which can be used as a basis for strategic planning, especially for companies that produce goods/services [2]. The eight dimensions are as follows:

a. Performance, namely the main characteristics of the core product.

b. Features, namely complementary or additional characteristics

c. Reliability (reliability), namely the possibility of failure rate in use

d. Conformance is the extent to which the design and operation characteristics of the product/service meet predetermined standards

    e. Durability, which measures how long the technical and economic life of a product is

    f. Serviceability, namely easy to repair, which includes speed, competence, comfort, ease of maintenance, and satisfactory complaint handling

    g. Aesthetics, which concerns style, taste, and attractiveness

    h. Perceived Quality, which concerns the image or reputation of the product as well as the company's responsibility for the product

Meanwhile, service according to Goetsch Davis (Zulian Yamit, 2005: 8) is a dynamic condition related to products, services, people, processes, and the environment that meet or exceed expectations [3].

According to Gronroos's service quality model (1982, 1984), there are two service quality dimensions, functional quality – how the service is delivered and technical service quality – the outcome of the service transaction, or what the customer gets in the service encounter [4].

According to Kasmir (2005), service is the action or deed of a person or organization to provide satisfaction to customers. Service is an activity or sequence of activities that occurs in direct interaction between a person and another person or physical machine and provides customer satisfaction [5].

According to Law number 25 of 2009 concerning public services states that public services are:

"All forms of activities in the context of regulation, guidance, guidance, provision of facilities, services and others carried out by government officials as an effort to fulfill the needs of the community by the provisions of applicable laws."

B. Unit Price Analysis

a) The following are several definitions/terms related to Unit Price Analysis:

    1. The unit price of work is the sum of the price of materials and labor wages based on analytical calculations

    2. According to Ashworth (1988), unit price analysis is the value of material costs and labor wages to complete a particular unit of work [6].

    3. According to Directors Regulation No. 022.P/DIR/2020, Self-Estimated Price (HPS) is a calculation of the estimated price of a good/service which is calculated based on the estimated cost of production or the estimated basic cost of work which is adjusted to the current economic conditions and other factors.

In determining the unit price analysis, it must be based on a reliable calculation based on the multiplier coefficient/index for materials and labor wages per unit of work. The prices of materials obtained on the market vary in type, quality, and price. The unit price scheme for work can be influenced by several material factors, labor wages, and equipment. The unit price of work depends on the unit price of materials, the unit price of wages, and the unit price of tools, whereas the unit price of materials depends on the accuracy of calculating requirements for each type of work. Determining the unit price of wages depends on the level of productivity of the worker in completing the work. The unit price of equipment, whether rental or investment, depends on field conditions, equipment conditions, implementation method,

What is meant by material analysis for a job is calculating the quantity/volume of each material, as well as the amount of costs required. Meanwhile, what is meant by wage analysis for a job is calculating the amount of labor required, as well as the amount of costs required for the job. (Bachtiar, 1993) [7]. For example, a list of wage and material analysis (SNI). SNI is an update of the 1991 BOW (Burgeslijke Openbare Werken) analysis, in other words, SNI analysis is an updated BOW analysis. This SNI analysis was issued by the Center for Settlement Research and Development. The cost preparation system based on SNI analysis is almost the same as the calculation system using BOW analysis. The basic principles of the SNI method are, that a list of material coefficients, wages, and tools have been determined to analyze the price or costs required to make a unit price for building work.

From these three coefficients, we will get a calculation of the materials needed, a calculation of wages for those doing the work, and a calculation of the equipment needed. The comparative composition and arrangement of materials, labor wages, and equipment for one job have been determined, which are then multiplied by the prices of materials, wages, and equipment prevailing in the market. The unit price of work consists of direct costs and indirect costs. The direct cost component consists of wages, materials, and tools, while the indirect cost component consists of general costs or overhead and profits.

b) Benefits of the Unit Price Catalog Application

The Unit Price Catalog Application is an information system that assists Users, Procurement Planners, and Procurement Executors in making unit price analyses of goods and services starting from the RAB Process at the procurement proposal stage, HPE at the procurement planning stage, and HPS at the Procurement Implementation stage. The development and implementation of the Unit Price Catalog application in the current digital era increasingly proves that technology has greatly contributed to overcoming various problems related to the goods/services procurement process at PLN. The benefits of the Unit Price Catalog application include:

1. Increase the accuracy of calculating unit prices for goods and services
2. Increase the time and cost efficiency of the unit price analysis process for goods and services
3. Increase transparency and accountability in price and provider selection
4. Support monitoring and audit processes
5. Fulfilling the need for real-time information access

c) Key factors for the success of implementing the Unit Price Catalog Application :

1. Technological Factors

   The Unit Price Catalog System must be supported by hardware and software components that meet established standards and are integrated with other systems within the scope of procurement of goods and services.

2. Factors Providing Goods/Services

   One of the main stakeholders in the goods and services procurement process is the goods/services provider, so they need to be able to adopt the system implemented and be involved in developing the Unit Price Catalog application.

3. User / HR factors

   According to Yudho Giri (2009:38), technology can't run by itself without someone managing it. So it is necessary to support an adequate number of human resources and competencies to optimize the use of the Unit Price Catalog application [8].

4. Leadership and Commitment Factors

   Implementation of the Unit Price e-Catalog in all PLN units requires strong commitment and full support from leadership both in terms of legal protection and adequate infrastructure support.

d) Purpose of Unit Price Catalog

The purpose of implementing the Unit Price Catalog System is to facilitate the process of preparing and analyzing unit prices for work which is the basis for determining the Cost Budget Plan prepared by the User, determining the HPE by the Procurement Planner, and determining the HPS by the Procurement Executor. According to Niron (1992) [9], the objectives of preparing a Cost Budget Plan are:

1) For Project Owners
   a. Knowing the feasibility of the project from an economic perspective b. As a basis for comparison in projects
   b. As an evaluation material for the project owner
   c. As a determination of the amount of taxes and administration
   d. As a benchmark for fund providers

2) For Construction Management Consultants
   a. Selection of project alternatives (area/use of type and quality of materials)
   b. As a material for further planning

3) For Contractors
   a. As a basis for providing materials, tools, energy, and time for implementation
   b. As a basis for participating in the auction and submitting bids
   c. As a basis for estimating the capital or funds that must be held

II.   METHODOLOGY

This research was conducted at PT. PLN (Persero) UIW Bangka Belitung from January 2023 to April 2023. The method used in this research uses a quantitative method with a questionnaire approach. Sampling is carried out by the technique of purposive sampling according to (Sugiono, 2019:133) which includes several employees at the PLN Main Unit Office for the Bangka Belitung Region [10]. Samples of informants were taken according to the Slovin formula: $n = N / (1 + (N \times e^2))$. The criteria for the sample of informants taken in this research were users of the Unit Price Catalog application who were employees of PT. PLN (Persero) which has used the Unit Price Catalog Application. The search was carried out using a Google form which was sent directly to each informant who had been previously determined.

Primary data is obtained through the results of answers to questions that have been loaded into a Google form based on variable ease of use, trust, the functionality of the interaction, reliability, content, appearance of information, and citizen support. Secondary data obtained in this research comes from the amount of data on the realization of the procurement process for goods and services that have utilized the Unit Price Catalog application. The data obtained was then analyzed and elaborated and conclusions were drawn. Descriptive data presentation was obtained through primary and secondary data which was then analyzed. The qualitative research approach begins with assumptions and the use of a theoretical interpretive framework that shapes or influences the study of research problems related to the meanings that individuals or groups impose on a social or human problem (Creswell, 2018:58) [11].

III. RESULT AND DISCUSSION

A. The process of implementing the Goods / Services Procurement Process

The process of organizing the procurement of goods/services at PLN in terms of the procurement system can be described as follows:
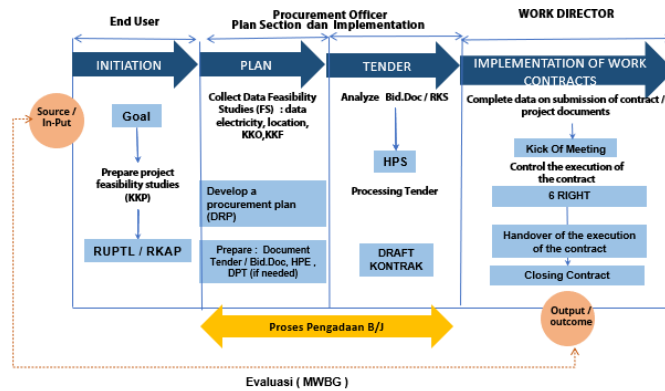

Fig. 1. Procurement process

From Figure 1 above it can be explained that the process of procuring goods and services at PLN starts from an Initiation process made by the user based on the RUPTL/RKAP document which produces an output in the form of a project feasibility study (KKP). Furthermore, the procurement planning section prepares a procurement plan document and tender document along with an engineering estimate price analysis (HPE). Furthermore, the procurement process is carried out by the procurement executive. This section analyzes tender documents to comply with procurement provisions and prepares The Self Estimated Price (HPS). Next, the procurement process starts with the announcement of tenders, holding explanation meetings, evaluating bid documents, determining and appointing winners, to drafting agreements/contracts.

The next process after the contract is signed by the first party and the second party is the implementation of the contract. Then appointed directors of work in charge of supervising, controlling, and supervising work in the field following the articles in the agreed contract until the process of handing over the results of the work.

From the process of implementing the procurement of goods and services, the Unit Price Catalog Application is very helpful in creating efficiency and transparency in the procurement process starting from the RAB preparation stage at the initiation stage, HPE preparation at the planning stage, and HPS preparation at the procurement implementation stage

According to data on the realization of goods/services procurement in 2023, the procurement implementation process at the PLN Main Unit for the Bangka Belitung Region is considered to have not been effective. The ratio between the proposed procurement of goods/services that have been planned and the number of procurements that have been successfully contracted is still low, according to data from a sub in the field of procurement planners and procurement implementers that as of April 2023, there are 5 (five) re-tendering, 6 (six) failed procurement implementations, 2 (two) canceled auction re-procurements in 2023, out of a total of 66 (sixty-six) procurement target.

The effect of delays in the procurement process is that work that has been planned and approved in the RKAP will be too late for execution. Not only in terms of execution, the payment process that has been determined previously also experiences delays, it can indirectly impact the performance of the unit, and the electricity supply to customers is disrupted as a result it can worsen the company's image as a whole. general, therefore the Procurement Implementation Sub Sector has a target so that the ratio of contracted procurement can increase. An

explanation of the number of proposals that have been processed by the Procurement Planner and the processes that have been implemented by the procurement implementer until April 2023 is explained in the following picture:
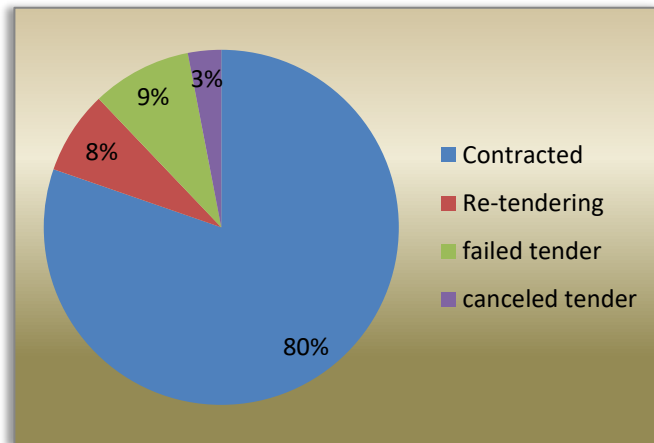

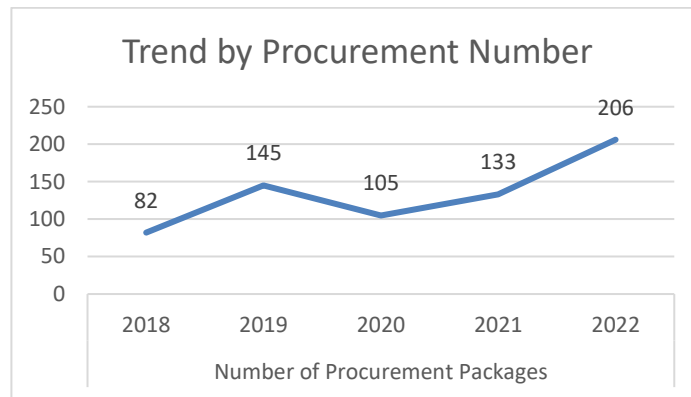**Fig. 2.** Process of Procurement of Goods and Services

Fig. 3. Trend of Procurement Process

Then in line with the number of procurement packages, in terms of the value of the procurement packages it has also increased from 2018 to 2022 and has decreased in 2020 due to the covid 19 pandemic and the highest point is in 2022.

The administration process for procurement of goods/services which still uses a manual system is not yet optimal and effective in its implementation, so the time required for the implementation of the administration is still quite long and uncertain. The product specifications made between the TOR (Terms of Reference) and the procurement proposal made by the user are different, so discussions are carried out again with the user regarding the specifications that will be determined in the proposal. On the other hand, the price taken as the proposed procurement price is different for each unit.

After going through the results of discussions with relevant stakeholders, detailed reasons for the length of the procurement implementation process were obtained, and then steps for improvement initiatives were prepared through the next step, namely compiling details of actions that would be taken to speed up the procurement process.

The action items that will be implemented to resolve these problems include:

a. Take inventory of reference sources for procurement of goods/services
b. Proposal to create a database and e-Catalog Unit Price application that can document history and supporting reference sources for procurement of goods/services as well as media for manufacturers/providers to provide price offers
c. Implementation of the creation of the Unit Price Catalog Application for centralized unit price.
d. Upload data into the Unit Price Catalog Application,
e. Carrying out socialization of use to each field related to the procurement implementation process, in this case, user representatives, procurement planners/functions of procurement planners and implementers as well as providers of goods and services
f. Carrying out evaluations of projects that have been implemented, as a monitoring activity and measuring the level of success

B. Implementation of Unit Price Catalog Application

To support the completion steps above, the Unit Price Catalog Application has been successfully implemented in the PLN Main Unit for the Bangka Belitung Region. The following are several print-screen images of the Unit Price Catalog Application.

In making the Master Category, it refers to Board of Directors Regulations Number 022. P / DIR / 2020, where there are main categories, namely Services, Materials, Insurance, Rent, and Outsourcing. The following is an image of the Category Master of the Unit Price Catalog application:
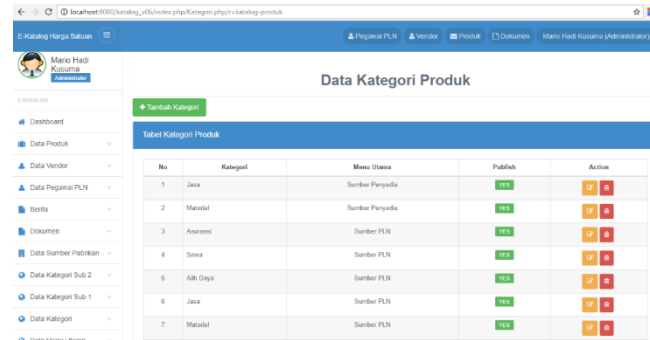

Fig. 4. Category Master

The process of creating master products and vendors is the next stage to accommodate the process of uploading data on the material price of goods/services which is equipped with notification and approval features for the product upload process and vendor / prospective goods/services provider registration.

The following is a view of the product data page for the price of goods/services and the vendor / prospective goods/services provider data page:
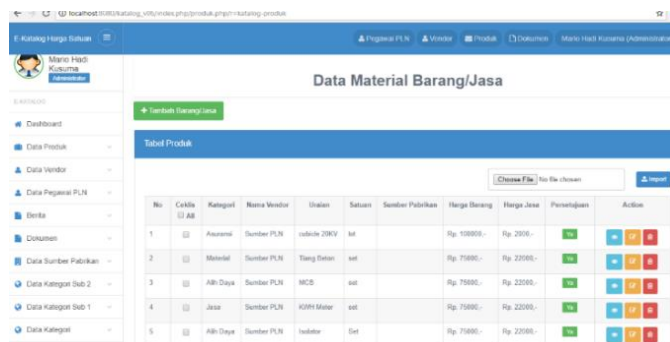
Fig. 5. Product Data
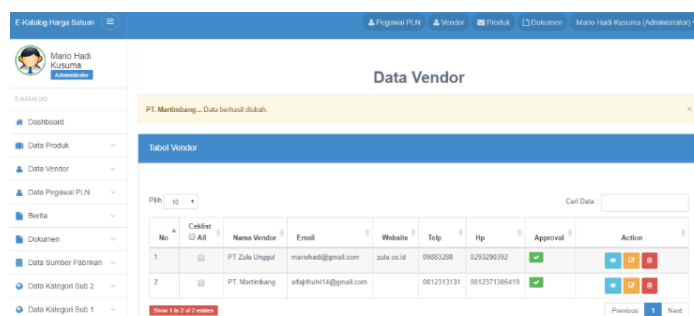
Fig. 6. Vendor Data

The advantages of this application are as follows:
a. The authentication log-in security because the function of each user ID is different, user functions are given according to each user's position.
b. Helping users to find reference prices for materials or services quickly.
c. It makes it easier for users to collect supporting references needed in creating RKS/Contracts or other documents.
d. Easy to backup databases or restore databases
e. Easy to access via intranet network and internet network.
f. User-friendly display

    g. Speed up the process of searching for material/service price information with a responsive search feature

    h. Standardized and Centralized unit price materials and services in PLN Bangka Belitung Region.

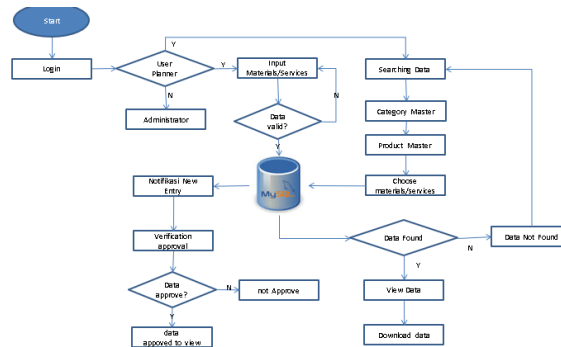Before creating the application, the process flow proposed for the Unit Price Catalog application is as follows:

Fig. 7. Data Input Process Flow for the Unit Price e-Catalog Application

The team enters the unit price of materials and services that will be used as an initial database that has been approved by the User. In this input, the unit price of materials and services was selected from the unit price list of PT PLN (Persero) Bangka Belitung Region goods compiled by the Procurement Planner User and the Procurement Executive User.

C. Validity test

The validity test was carried out using the SPSS application on the results of the questionnaire with a total of 20 respondents who were users of the application and the results are shown in Table 1 below:

Table 1. Test of Validity

No	Tested questions		Number of Respondents	R Calculated	R Table	Results
Ease of Use						
1	The application is easy to use and the user interface is easy to understand	Ease of Use Indicators 1	20	0.407	0.098	Valid
2	The application facilitates the need to analyze budget details and the owner's price estimate	Ease of Use Indicators 2	20	0.203	0.098	Valid
Functionality of the Interaction Environment						
3	The application has complete features and functions well	Functionality Indicators 1	20	0.115	0.098	Valid
4	The application has a good protection system for procurement data security	Functionality Indicators 2	20	0.594	0.098	Valid
5	The application makes it easy to archive the process	Functionality Indicators 3	20	0.346	0.098	Valid
Trust & Transparent						
6	The application has a responsive system	Trust & Transparent Indicator 1	20	0.116	0.098	Valid
7	Features of the Application make healthy competition between providers of goods and services more competitive and open	Trust & Transparent Indicator 2	20	0.633	0.098	Valid
8	The application can prevent fraud opportunities and conflicts of interest in the process of procuring goods and services	Trust & Transparent Indicator 3	20	0.317	0.098	Valid
Reliability						
9	The application is very reliable when used via intranet and internet networks	Reliability Indicator 1	20	0.403	0.098	Valid
10	The application has fast loading times	Reliability Indicator 2	20	0.564	0.098	Valid
Content and Appearance of Information						
11	The application displays all required information transparently for all prospective providers of goods and services	Content and Information Indicator 1	20	0.163	0.098	Valid
User Support & Satisfaction						
12	I am satisfied with the addition of features to the Application	User Support and Satisfaction Indicator 1	20	0.628	0.098	Valid
13	I am satisfied with the service through the Application which is very effective	User Support and Satisfaction Indicator 2	20	0.302	0.098	Valid

Table 1 shows the Pearson Correlation Value (r count) for each question is greater than the value of the r table. This means that all indicators/question items that measure all variables have a very strong and valid correlation

D. Reliability Test

The reliability test was carried out using the SPSS application on the results of the questionnaire with a total of 20 respondents and the results are shown in Table 2 below:

Table 2. Test of Reliability

No	Tested Questions	Cronbach's alpha	R Table	Results
1	Question 1	0.600	0.098	Reliable

2	Question 2	0.627	0.098	Reliable
3	Question 3	0.515	0.098	Reliable
4	Question 4	0.624	0.098	Reliable
5	Question 5	0.632	0.098	Reliable
6	Question 6	0.570	0.098	Reliable
7	Question 7	0.594	0.098	Reliable
8	Question 8	0.556	0.098	Reliable
9	Question 9	0.565	0.098	Reliable
10	Question 10	0.510	0.098	Reliable
11	Question 11	0.599	0.098	Reliable
12	Question 12	0.584	0.098	Reliable
13	Question 13	0.544	0.098	Reliable

Based on Table 2 above, it can be seen that all statements from the variables efficiency, fulfillment, Service Availability, and Privacy have Cronbach Alpha (α) > r table values. So that each question item in this research can be stated to have a consistent reliability value and is suitable for use in this research.
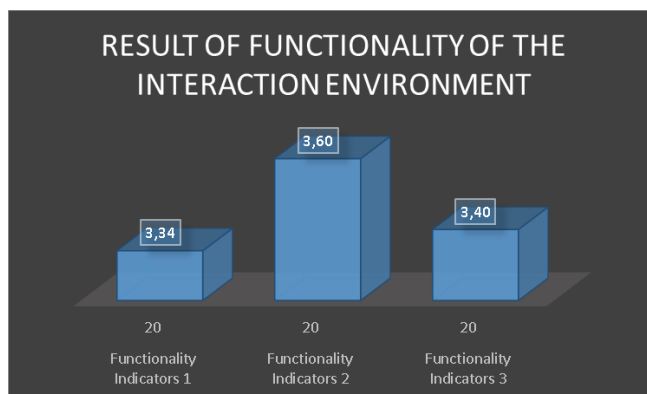
E. *Ease of Use*

Based on the results of a survey of 20 respondents, it shows that the average value for all Ease of Use indicators is 3.47 on a Likert scale of 4 as can be seen in Figure 8. This shows that the ease of use variable is effective and in the efficient category because the user interface is easy to understand.
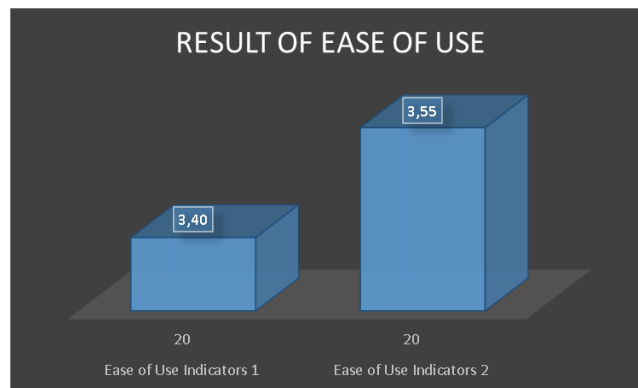
Fig. 8. Results of Ease of Use Variables

F. 3.6 *Functionality of the Interaction Environment*

Based on the results of a survey of 20 respondents, it shows that the average value for all Usability and Interaction indicators is 3.44 on a Likert scale of 4 as can be seen in Figure 9. This shows that these variables have met the needs and expectations of users from the security system aspect and completeness of features.

Fig.9. Results of Functionality of the Interaction Variables

10   Trus and Transparent

Based on the results of a survey of 20 respondents, it shows that the average value for all Result of Trust and Transparent indicators is 3.43 on a Likert scale of 4 as can be seen in Figure 10. This shows that this application is quite effective in preventing fraud when it occurs. Analysis of unit prices and selection of providers of goods and services.
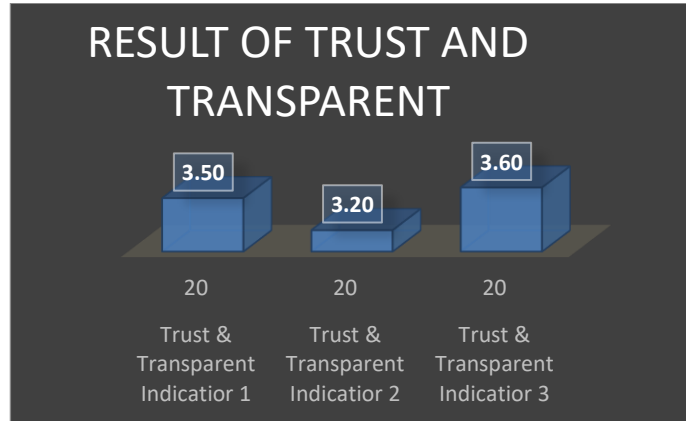

Fig. 10. Results of Functionality of the Interaction Variables

G. 3.8 Realibility

For the Reliability Results, an average value of 3.39 was obtained from a Likert scale of 4 in Figure 11. This shows that the Rability variable has met the expectations of users and management. Because the Unit Price Catalog Application Feature can be accessed from intranet or internet networks.
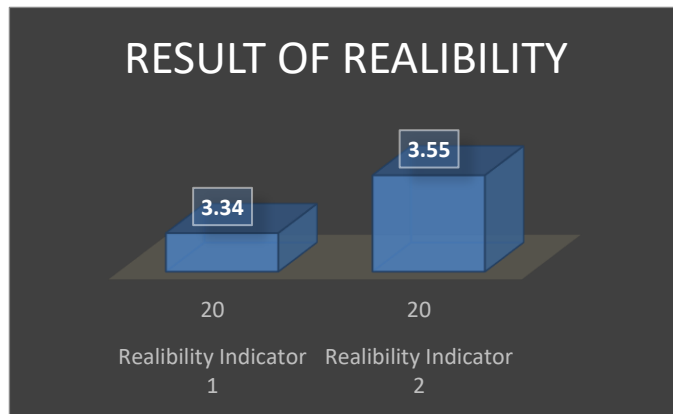

Fig. 11. Results of Reliability

H. 3.9 Content and Appearance of Information

For the Content and Appearance of information results, an average value of 3.66 was obtained from a Likert scale of 4 in Figure 12. It shows that this variable has displayed all required information transparently for all prospective providers of goods and services.
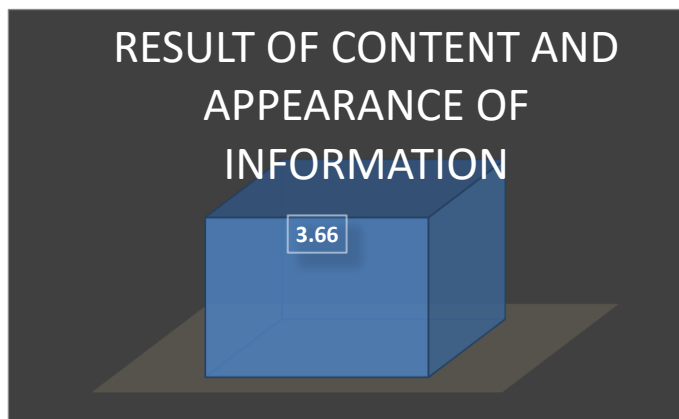

Fig. 12. Results of Content and Appearance of Information

IV. CONCLUSION

From this study, the following conclusions were obtained:

a) The survey using a Likert Scale of 4 gives results with the following average values: the level of variable ease of use perceived by users is 3.84, the Functionality indicator is 3.86, Trust and transparent is 3.81, the Reliability indicator is 3.73, Content and Appearance of Information is 3.86, and from user support and satisfaction indicator is 3.84. The result of these survey calculations, validity test, and reliability test indicate that the catalog unit price application implementation can meet internal users and management PLN UIW Bangka Belitung expectations to standardize centralized unit price and realize efficient procurement process following the principle of procurement and Board of Director's Regulation 022.P/DIR/2020.

b) The effectiveness of the Catalog Unit Price Application in improving PLN efficiency of the company in terms of time and productivity of employees and the company can be said to have been very effective based on the results of survey questionnaire tests, observations, and other supporting data.

REFERENCES

[1] P. G. Altbach, Tjiptono, Fandy., "Total Quality Management," Yogyakarta: Andi, 2002.

[2] Yamit, Z., "Quality Management of Products and Services," Yogyakarta: Ekonesia, 2004.

[3] Yamit, Z., "Manajemen Kualitas Produk dan Jasa," Yogyakarta: Ekonesia, 2005.

[4] Christian, Gronroos., "A Service Quality Model and Its Marketing Implications," European Journal of Marketing, Vol. 18, No. 4, pp. 36-44, 1988.

[5] Kasmir., "Etika Customer Service," Jakarta: Raja Grafindo Persada, 2005.

[6] Ashworth, Allan., "Cost Studies of Buildings," English: Longman Scientific and Technical, 1988.

[7] Ibrahim, Bachtiar., "Rencana dan Estimate Real of Cost." Jakarta, Ed.2, 1993.

[8] Giri, Yudho., & Ruldeviyani, Yova., "Implementasi e-procurement sebagai inovasi pelayanan publik," Jakarta: Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah, 2009.

[9] Niron, John W., "Rencana Anggaran Biaya," Jakarta: CV Asona, 1992.

[10] Sugiono, "Quantitative, Qualitative, and R&D Research Methods," Bandung: Alphabeta Bandung, pp. 133, 2019

[11] Creswell, J. W., "Qualitative research and research design," Yogyakarta: Student Library, pp. 58, 2018